

NOKIA

3200

RH-30



Transceiver Features

- Create your own Cut-out covers*
- Integrated camera
- Multimedia messaging
- Polyphonic ringing tones
- Wallpapers and picture editor
- Java™ games and applications
- Built-in FM radio
- XHTML browser
- Tri-band phone (GSM 900/1800/1900)

*Note: Use only normal, plain paper used in standard printers (max. weight 60-135 g/m2; max. thickness 0.3mm). Colors or ink used in the paper must not contain any metal particles.

Transceiver with BLD-3 Li-ion 780mAh battery pack

Talk time	Standby	Note
Up to 2h-4h	Up to 6 days-12 days	Depends on network parameters

SERVICE MANUAL

Service Level 1&2

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CHANGE HISTORY

Status	Version No.	Date	Comments
Draft	0.1	19.09.2003	Initial draft
Approved	1.0	28.10.2003	approval

1. INTRODUCTION

The purpose of this document is to help Nokia service levels 1 and 2 workshop technicians to carry out service to Nokia 3200. This Service Manual is to be used **only** by authorized Nokia service partners, and the content of it is **confidential**. Please note that Nokia provides also other guidance documents (e.g. Service Bulletins) for service partners, follow these regularly and comply with the given instructions.

While every endeavor has been made to ensure the accuracy of this document, some errors may exist. If you find any errors or if you have further suggestions, please notify Nokia using the address below:

<mailto:cc-ts-rc.documentation@nokia.com>

Please keep in mind also that this documentation is continuously being updated and modified, so watch always out for the newest version.

Warnings and Cautions

Please refer to the phone's user guide for instructions relating to operation, care and maintenance including important safety information. Note also the following:

Warnings:

1. CARE MUST BE TAKEN ON INSTALLATION IN VEHICLES FITTED WITH ELECTRONIC ENGINE MANAGEMENT SYSTEMS AND ANTI-SKID BRAKING SYSTEMS. UNDER CERTAIN FAULT CONDITIONS, EMITTED RF ENERGY CAN AFFECT THEIR OPERATION. IF NECESSARY, CONSULT THE VEHICLE DEALER/MANUFACTURER TO DETERMINE THE IMMUNITY OF VEHICLE ELECTRONIC SYSTEMS TO RF ENERGY.
2. THE HANDPORTABLE TELEPHONE MUST NOT BE OPERATED IN AREAS LIKELY TO CONTAIN POTENTIALLY EXPLOSIVE ATMOSPHERES EG PETROL STATIONS (SERVICE STATIONS), BLASTING AREAS ETC.
3. OPERATION OF ANY RADIO TRANSMITTING EQUIPMENT, INCLUDING CELLULAR TELEPHONES, MAY INTERFERE WITH THE FUNCTIONALITY OF INADEQUATELY PROTECTED MEDICAL DEVICES. CONSULT A PHYSICIAN OR THE MANUFACTURER OF THE MEDICAL DEVICE IF YOU HAVE ANY QUESTIONS. OTHER ELECTRONIC EQUIPMENT MAY ALSO BE SUBJECT TO INTERFERENCE.

Cautions:

1. Servicing and alignment must be undertaken by qualified personnel only.
2. Ensure all work is carried out at an anti-static workstation and that an anti-static wrist strap is worn.
3. Ensure solder, wire, or foreign matter does not enter the telephone as damage may result.
4. Use only approved components as specified in the parts list.
5. Ensure all components, modules screws and insulators are correctly re-fitted after servicing and alignment. Ensure all cables and wires are repositioned correctly.
6. All PC's used with NMP Service Software for this produce must be bios and operating system "Year 2000 Compliant".



Electrostatic discharge can easily damage the sensitive components of electronic products. Therefore every Service Supplier has to take care of all precautions, which are mentioned in the service level related "Service Partner Requirements", available on Nokia Partner Web Site. Also see ESD Protection Requirements in this Service Manual.

2. GENERAL REPAIR INFORMATION

IN THIS SECTION THE TECHNICIAN WILL GET SOME GENERAL HINTS HOW TO CARRY OUT REPAIRS:

- To familiarize oneself with Nokia 3200 read the tutorials or user guide on www.nokia.com -->Support--> Phones, by selecting the Phone Model.
- Before starting the repair you must take care of ESD precautions like being in your ESD Protected Area and connecting your wristband.
- Use gloves to avoid corrosion and fingerprints.
- Protect windows and displays with a film to avoid dust and scratches.
- When cleaning the pads you have to use a soft cloth/ESD brush and Isopropanol. It is not allowed to use a glass fiber pencil because it scratches the surface and will lead later on to corrosion.
- Mechanical parts (except shielding lids), which didn't repair the failure, can be reused, if they are not soldered.
- When removing the shielding lids make sure to replace them with new ones, otherwise the high-frequency leakage can have an influence on the device.
- Use always original Nokia spare parts.
- Check the soldering joints of the parts which are concerned regarding the indicated error (e.g. soldered connectors or switches) and resolder them if necessary (Level 2 only).
- Remove redundant soldering flux after repair.
- Meet the torque requirements when assembling the unit (see also the document "torques for transceiver assembly" on Nokia Partner Web Site).
- Always use your own equipment for testing where you are sure that it works. E.g. if the customer complains about charger function, please test the phone with your own charger to be sure if phone or charger causes the malfunction.
- When doing the Faultlogger entries, always note the Item code, which caused the malfunction. Also, fill in the appropriate part code from the assembly, if needed.
- Please be aware that some malfunctions could be software related and solved by an update.

These mention Service Bulletins have to be followed:

General

- SB-027: Original Nokia Accessories
- SB-089: Don't try to repair prototypes (indicated on Type Label).
- SB-107: Be sure that you have minimum hardware requirements in place.
- SB-115: Handling of liquid damages.
- SB-121: Return the defective part, if one of your service tools causes malfunction.
- SB-124: Service Policy for packaging serviced products
- SB-131: Check these guidelines when refurbishing products.
- SB-148: Improvements to Faultlog Reporting Tool
- SB-156: Packing Material
- SB-161: New structure of General Bulletins
- SB-163: Service handling of PWBs and PCBs during repair process
- SB-164: New barcode for future products
- SB-165: NMP Global Symptom Codes
- SB-167: NMP Global Fault Codes (Level 1&2)

Service Tools

- SB-011: NMP Standard Toolkit

Spare Parts

- SB-004: New swap phone cartons

Please check Nokia Partner Web Site (PWS) for latest news and files on a regular basis.

3. PATHFINDER FOR WORKSHOP STAFF

In addition to the information in this Service Manual, there are several instructions and information, which have to be followed.

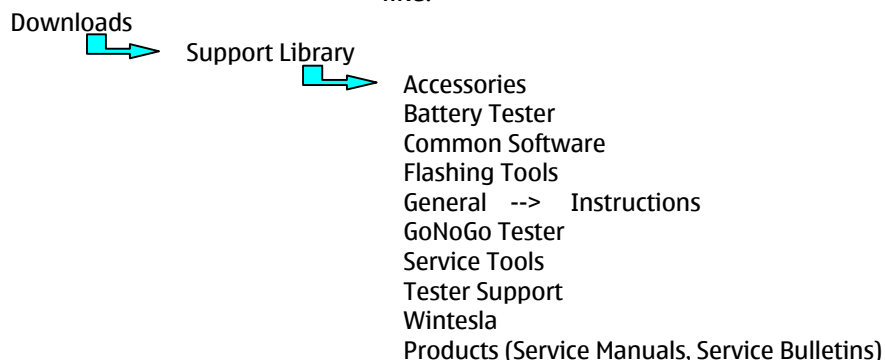
Main documentation database is [Nokia Partner Website](#), which refers also to [Nokia Care Point](#) with the purpose of serving different multimedia content, like video clips or interactive tutorials.

Nokia Partner Web Site	Nokia Care Point (access through Partner Web Site)
<p>Nokia Partner Web Site for EMEA region is the most important document database for all service suppliers (level 1-4). All service relevant information like e.g. Service Manuals, Service Bulletins or general instructions are available. Content is restricted according your access level. To be kept up-to-date also concerning newest software updates, a daily check of "latest updates in support library" is needed.</p>	<p>Nokia Care Point is repair support and training channel for Nokia service suppliers (mainly for service levels 1 and 2). By providing visual and easy to learn support and training material, such as illustrative repair videos, troubleshooting with pictures, product information and general repair information, Nokia Care Point offers user-friendly channel for service partners to learn technical issues.</p>
	

It is mandatory to watch for newest technical and organizational information on a daily basis to be updated as required (see "**Latest Updates in support Library**"). Every new information has to be processed and implemented as soon as possible.

When logged into PWS you can also find needed information to different headlines respectively tools

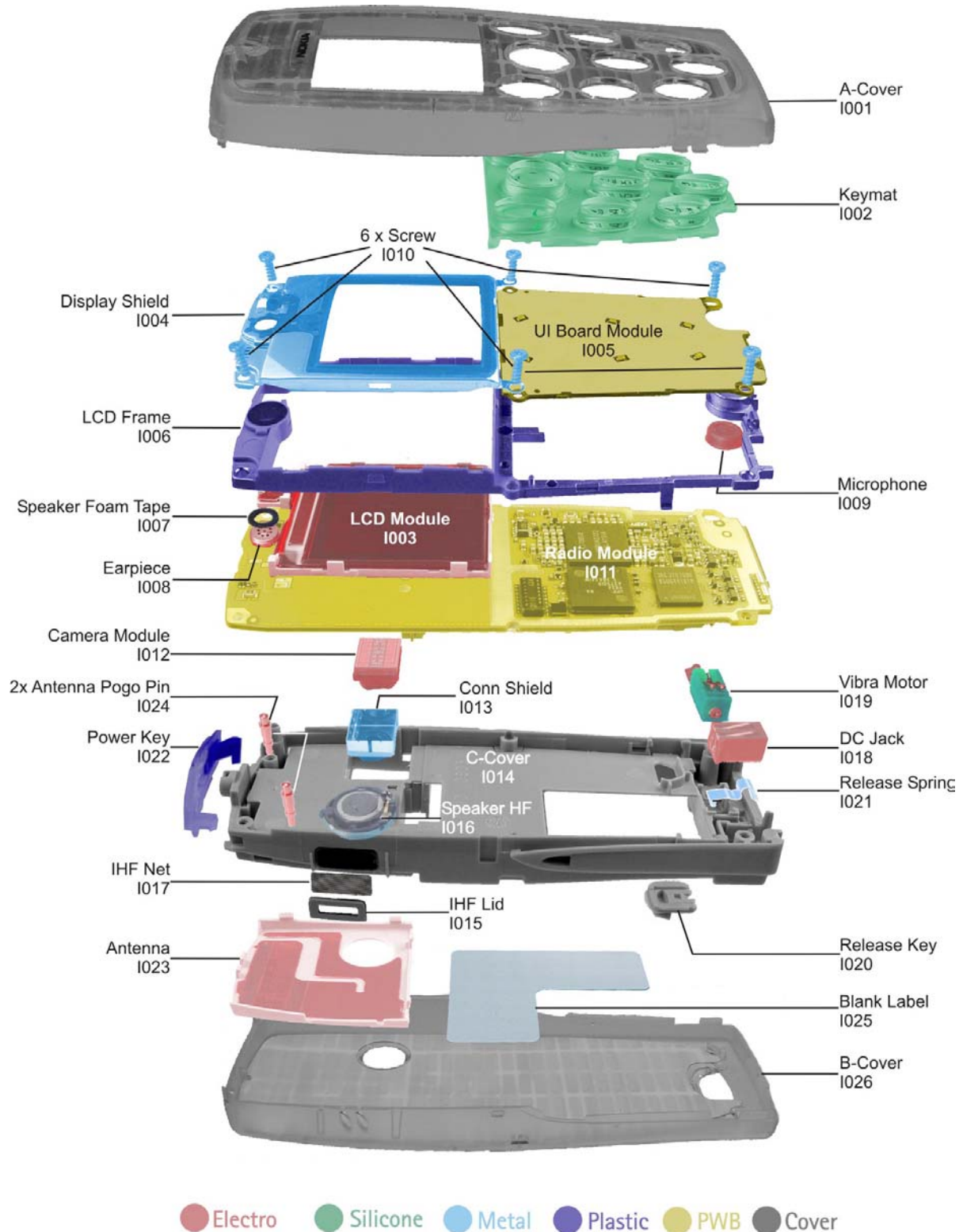
like:



To spare server bandwidth it is recommended to download newest version of huge files like videos, Phoenix packages or Service Manuals only once and distribute it internally for further use.

4. EXPLODED VIEW AND COMPONENT DISPOSAL

Recommendation for the ecologically friendly disposal of components. Colorized components show the different categories.



Description: See corresponding ITEM/CIRCUIT REF of the SPL (Spare Parts List)

5. SPARE PARTS LIST

MECHANICAL PARTS

ITEM/ CIRCUIT REF.	QTY	PART NO	PART NAME
I001	1	9459088	A-COVER
I002	1	9791015	KEYMAT LATIN
I003	1	4850291	LCD MODULE
	1	9498007	UI MODULE ASSY
I004	1	-	DISPLAY SHIELD ASSY
I005	1	-	UI Board Module
I006	1	-	LCD FRAME
I007	1	-	SPEAKER FOAM TAPE
I008	1	-	EARPIECE
I009	1	-	MIC+BOOT ASSY
I010	6	6290107	SCREW
I011	1	-	1BJ RADIO MODULE
I012	1	4858003	CIF CAMERA MODULE
I013	1	9481013	CONN SHIELD
	1	-	C-COVER ASSY
I014	1	-	C-COVER
I015	1	-	IHF LID
I016	1	-	SPEAKER HF
I017	1	-	IHF-NET
I018	1	5400243	CONN DC-JACK
I019	1	6800057	VIBRA ASSY
I020	1	9453209	RELEASE KEY
I021	1	9511232	RELEASE SPRING
I022	1	9453197	POWER KEY
I023	1	-	ANTENNA
I024	2	5400263	ANTENNA POGO PIN
I025	1	-	TYPE LABEL
I026	1	9459085	B-COVER

SOLDERING COMPONENTS **ONLY FOR LEVEL 2**

ITEM/ CIRCUIT REF.	QTY	PART NO	PART NAME
S302	1	5200025	SM TACT SW SIDE TRAVEL (POWER SWITCH)
X100	1	5409141	SM BATTERY CONN
F100	1	5119019	SM FUSE
G300	1	4700131	CELL CAPACITOR

VARIANT PARTS

ITEM/ CIRCUIT REF.	QTY	PART NO	PART NAME
	1	9791015	KEYMAT LATIN
	1	9791017	KEYMAT LATIN w/o "i" SYMBOL
	1	9791013	KEYMAT HEBREW
	1	9791009	KEYMAT ARABIC
	1	9791011	KEYMAT CYRILLIC RUSSIAN
	11	9791012	KEYMAT CYRILLIC GREEK

SWAP UNITS

		PART NO	PART NAME
	1	0050558	RH-30 N3200 SWAP UNIT EUROPE & AFRICA
	1	0050559	RH-30 N3200 SWAP UNIT TURKEY
	1	0050560	RH-30 N3200 SWAP UNIT POLAND
	1	0050561	RH-30 N3200 SWAP UNIT CZECH
	1	0050562	RH-30 N3200 SWAP UNIT FRANCE
	1	0050563	RH-30 N3200 SWAP UNIT SOUTH - AFRICA
	1	0050564	RH-30 N3200 SWAP UNIT RUSSIA
	1	0050565	RH-30 N3200 SWAP UNIT UKRAINE

SERVICE TOOLS

TYPE	QTY	PART NO	PART NAME
	1	0080541	FLS-4S FLS-4S SALES PACK E & A
	1	0680032	ACF-8 UNIV. POWERSUPPLY FPS-8
ACCESSORY	1	0273460	BLD-3 BATTERY PACK LI-IO
ACCESSORY	1	0272169	AC TRAVEL CHARGER ACP-8E (EURO)
ACCESSORY	1	0272172	AC TRAVEL CHARGER ACP-8X (UK)
ACCESSORY	1	0694121	HS-5 HEADSET
	1	0770492	FLA-27 POS FLASH ADAPTER
	1	0730218	XCS-1 SERVICE CABLE
	1	0770493	MJS-90 SOLDERING JIG
	1	0770556	SRT-10 CIF CAMERA REMOVAL TOOL
	1	0770450	BBS-10, PINS FOR FLA-27, 10 PCS/PLASTIC BAG
	1	0772040	STANDARD TOOLKIT

6. SERVICE TOOLS



ACF-8
Universal Power Supply is used to power FLS-4S.



FLS-4S incl. Driver and User Guide
is a dongle and flash device incorporated into one package, developed specifically for POS use.



XCS-1
Service Cable is used to connect FLS-4S to FLA-27.



Internal Battery BLD-3
Inserted under the back cover, this Li-ion battery provides power in a lightweight package.



Travel Charger ACP-8E/ACP-8X
Lightweight multi-voltage charger for charging your phone battery.



Headset HS-5

An easy and convenient handsfree solution with remote control.



FLA-27

POS Flash Adapter is used in POS (Point of Sales) environment for software updating. It provides controlled supply voltage and necessary connections between the phone and the Flash Device. It substitutes for the phone's standard battery during the software update.



SRT-10

Camera removal tool.



MJS-90

Soldering Jig (for Level 2 or higher service level supplier)



New Test Pins

for POS Flash Adapter FLA-27

NMP code 0772040



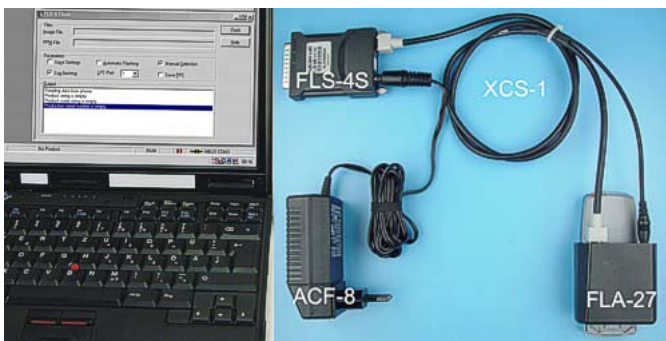
Content

- Nokia opening tool SRT-6 Nokia No. 0770431
- Tonichi torque driver Nokia No. 6901525
- [Hoya](#) micro fibre cloth MX304
- [Dastex](#) gloves S, M, XL
- [Artlux](#) goggles AH166
- [Wera](#) bit T5 867/4TX 5x50
- Wera bit T6 867/4TX 6x50
- Wera bit T6 PLUS® 867/4TX 6IP
- [Facom](#) side cutter 416E
- Facom T5 driver SP.14032
- Facom T6 driver SP.14033
- Facom slot screwdriver AEF. 2x35.E
- [Wetec](#) tweezers 7abb SA-ESD
- Wetec tweezers 22 SA-ESD
- Wetec tweezers 13 SA-SMD ESD
- Wetec tweezers PSF SA-ESD
- Wetec ESD brush E1211
- [Kaiser Fototechnik](#) airbrush 6315
- Wetec dental tool DEM83266/0
- [RS Components](#) Scissors 323-5732

7. SW-UPDATE

To use FLS-4S Flash Dongle you have to follow the user guide inside the sales package. Please check always the latest version of flash software, which is available on Nokia Partner Web Site.

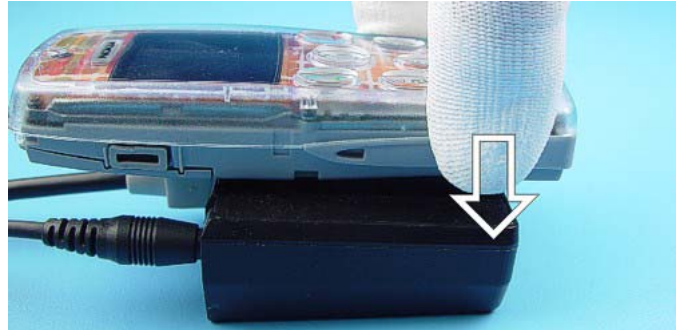
Flash Concept – (Point of Sales)



It is very important to follow this insertion and removal procedure, otherwise the contact pins of Flash Adapter will be damaged.



Insert the Flash Adapter FLA-27 like a battery, start at the Battery Connector side.



Now, push down the bottom side of the Phone, do not use too much force.

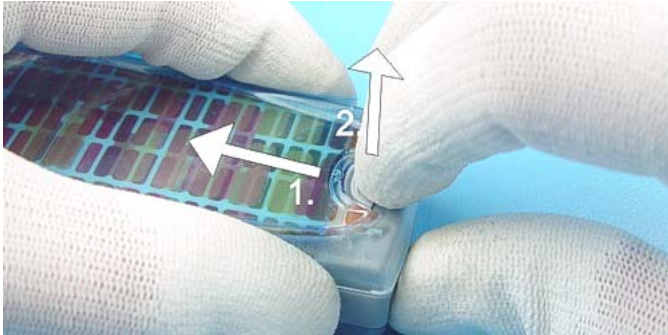


When removing the Flash Adapter always start from the bottom side.

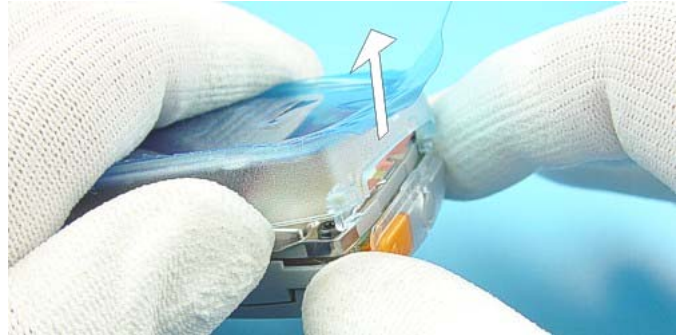


Now, take away the unit.

8. DISASSEMBLY INSTRUCTIONS (ALSO SEE THE VIDEO CLIPS ON CARE POINT)



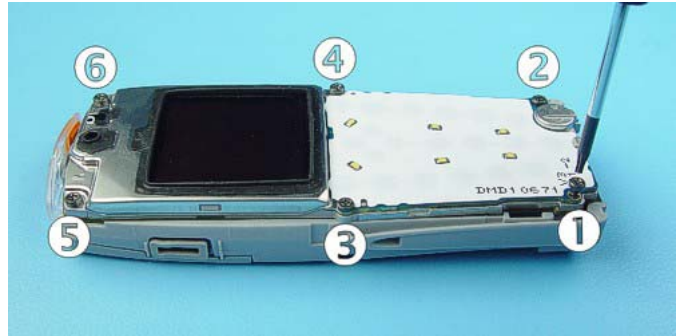
Push the Release Button to the left before pulling up the B-Cover.



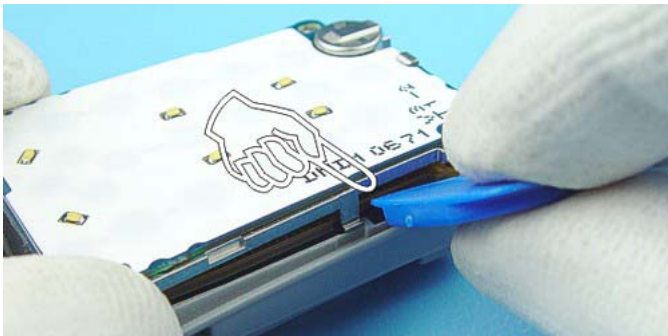
Remove the A-Cover.



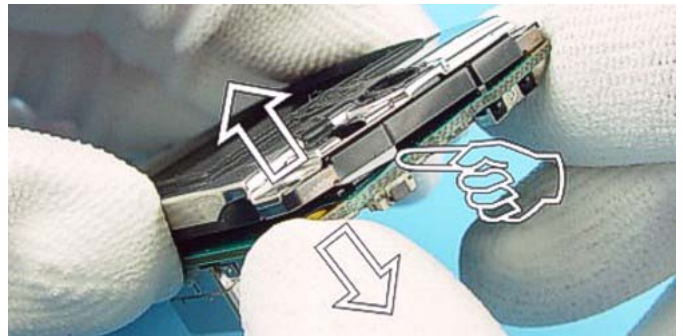
Take away the Keymat.



Unscrew the six TORX PLUS® size 6 screws, using the order shown. **For assembly, the reverse order and a torque of 21Ncm have to be used.**



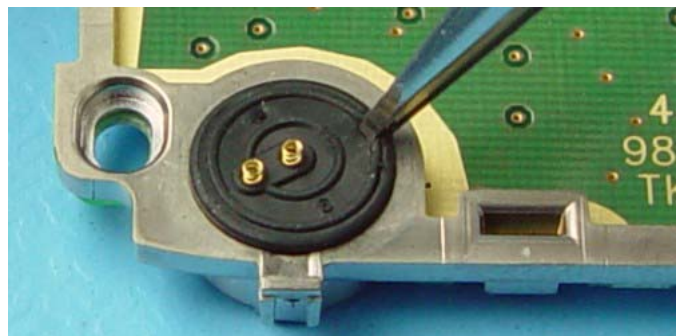
Unlock the snaps before removing the modules from C-Cover.



Unplug the display connector by pulling the modules apart carefully.



The Speaker is attached with double-sided adhesive Foam Tape. Always use a new tape when mounting the Speaker.



Do not damage the spring contacts, when removing the Microphone.



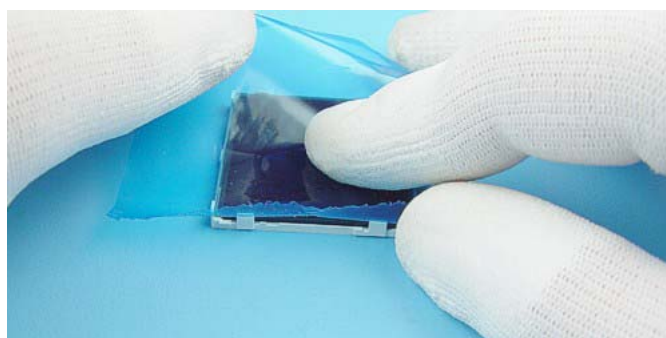
Open the snaps with SRT-6 on both sides of the Display Shield.



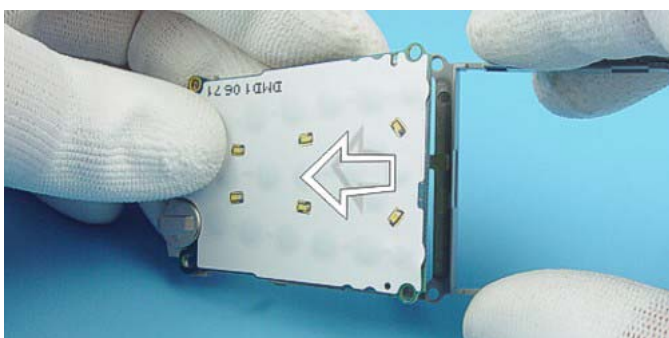
Remove Display Shield.



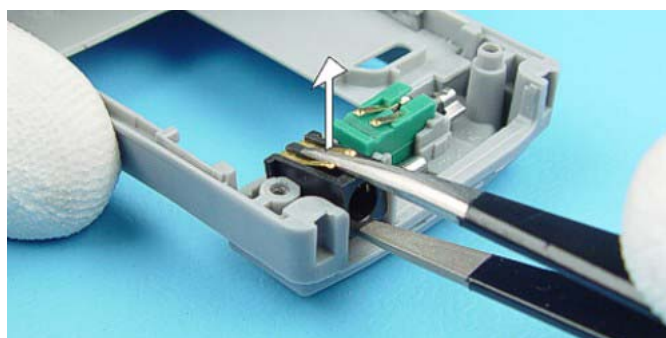
Take a clean cloth and press the LCD from the LCD Frame.



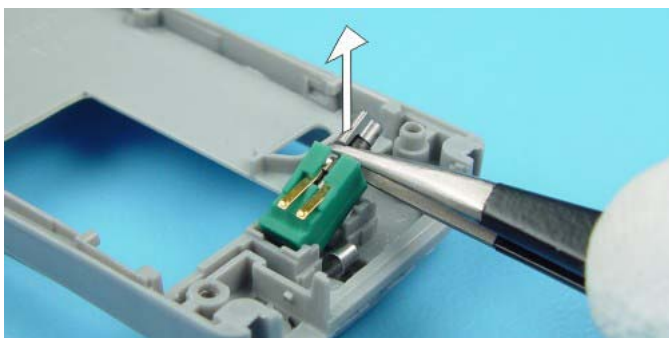
Protect LCD with a film.



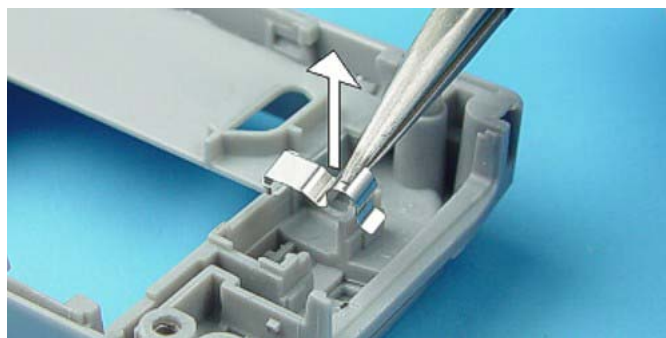
Bend the frame a bit, shift the UI Module to the right and then pull it up.



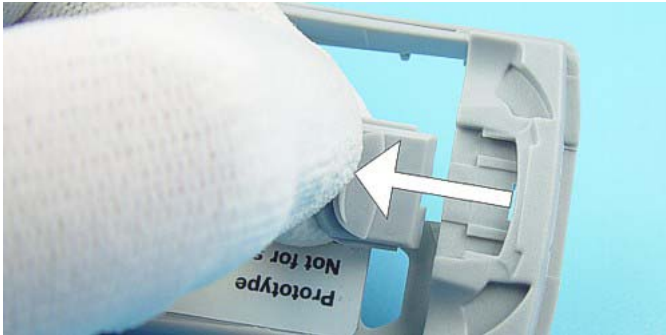
To remove the DC Jack, place tweezers between the spring contacts and under the Jack. You'll need to use additional force to pull the Jack upwards.



Remove the Vibra Motor with the rubber.



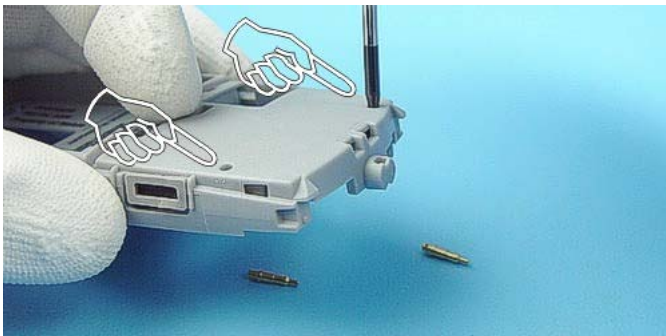
Remove the Release Spring before detaching Release Button.



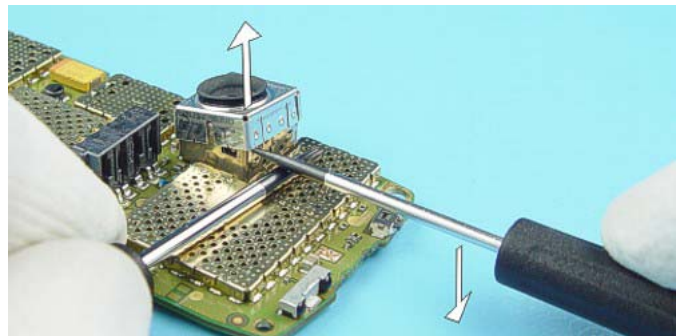
Now, the Release Button can be taken away.



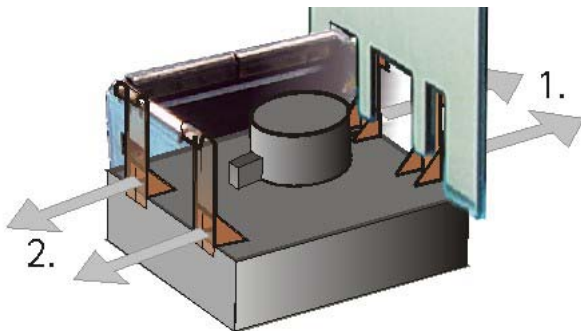
Unlock Antenna on both sides with SRT-6.



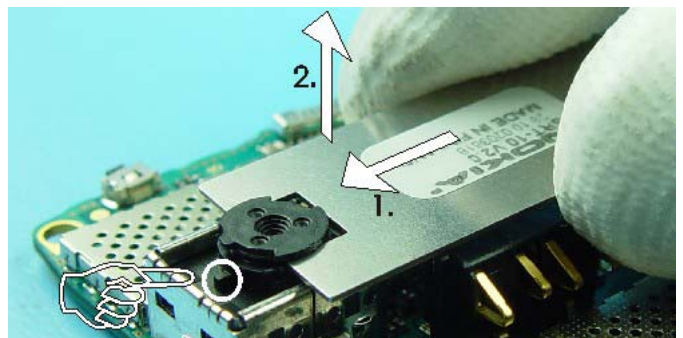
Antenna Pogo Pins can be removed by pushing with Torx driver through the opening in C-Cover.



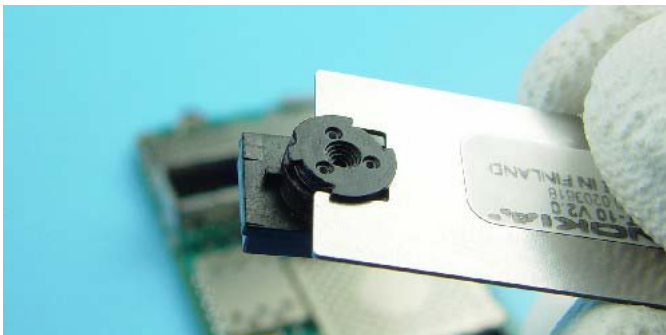
Remove Connector Shield when cleaning contacts or changing Camera Module.



Camera Module is attached with four snaps into its guidance. Place SRT-10 as shown in the picture and unlock the snaps on both sides. Note releasing order.

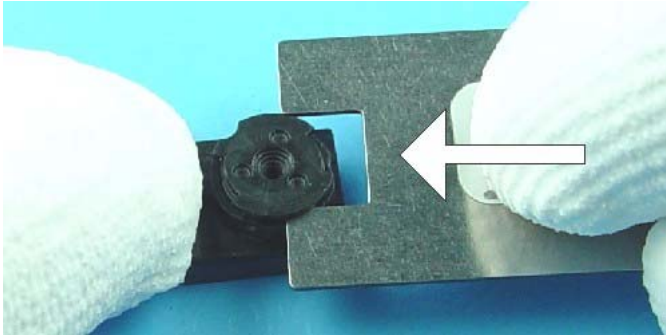


Remove Camera Module carefully. Take care that Camera marking shows to right side when assembling.

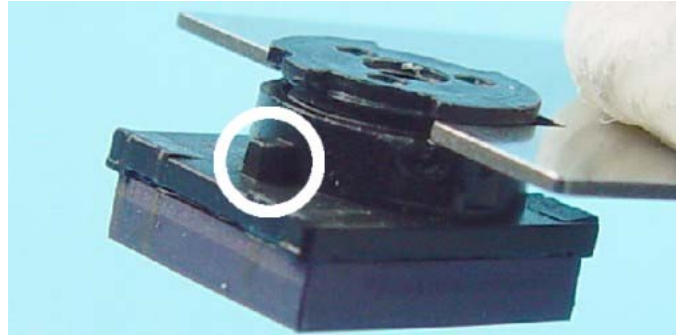


Do not touch contacts and camera lens. Use always SRT-10 for assembly and disassembly.

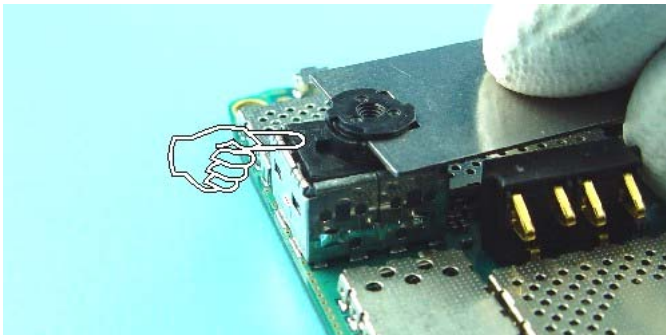
9. ASSEMBLY INSTRUCTION DOR CAMERA MODULE



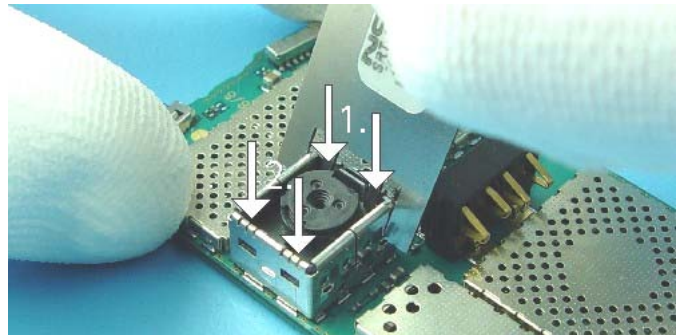
Shift the SRT-10 into the camera groove.



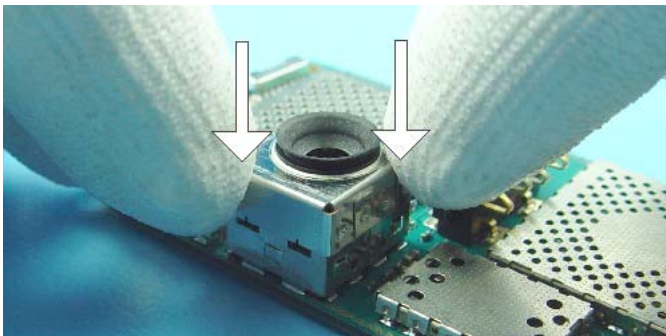
Take the Camera Module carefully and note the marking.



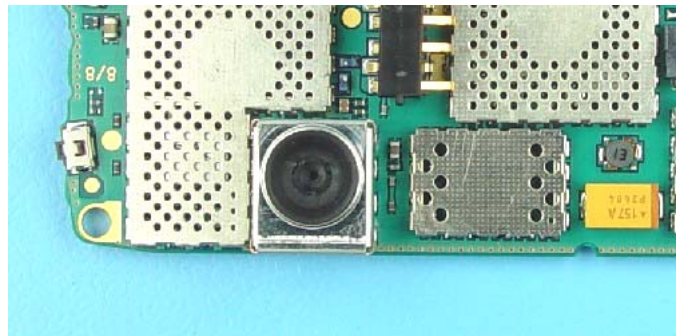
Place Camera Module into its guidance. It is very important to take correct position of the Camera Module to avoid damaging of this device.



Use SRT-10 to lock Camera Module into its guidance. Note locking order.








Put the Connector Shield on the camera guidance and press it down.



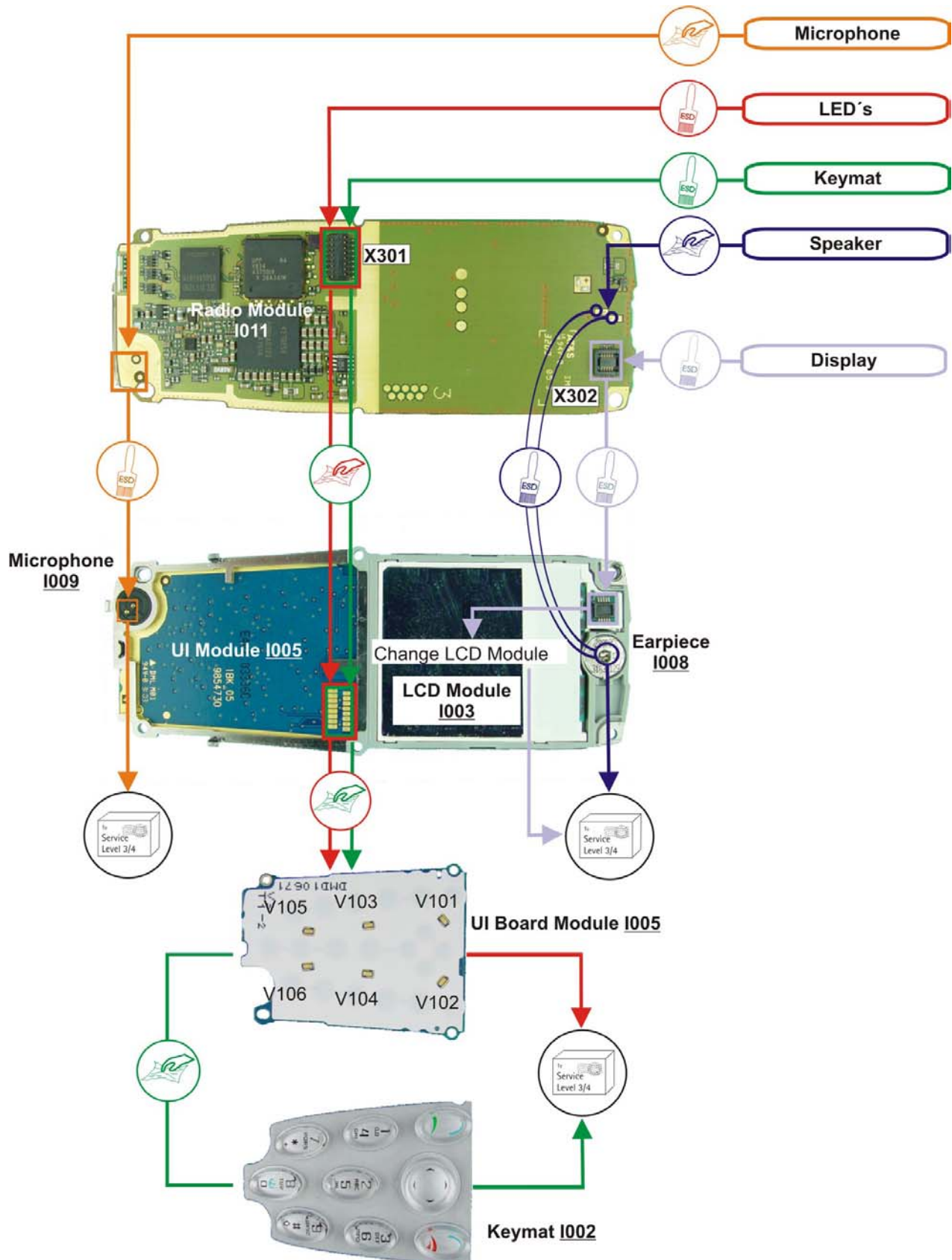
Check, that Camera Module is clean. If it is necessary to clean the camera lens, use compressed air for this procedure only.

10. LEGEND FOR QUICK TROUBLE SHOOTER

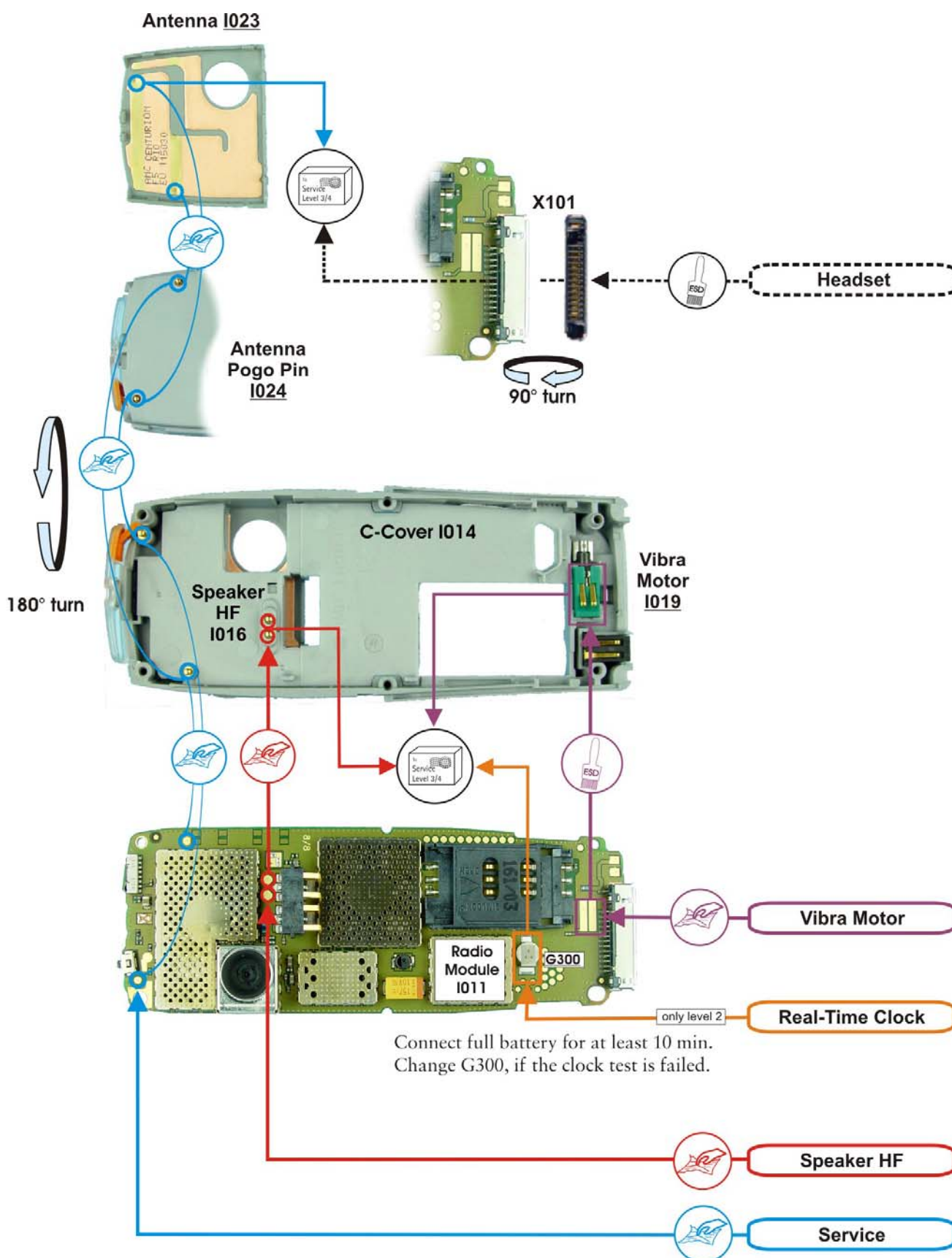
This legend is valid for all parts of the **Quick Trouble Shooter**

Follow the steps until the problem is solved. If this doesn't help, you are not authorized to go forward. Only underlined components (e.g. <u>1002</u>) can be changed.	
Fault symptom	The start point of repair activities regarding the appeared fault symptoms.
	Follow the arrows step by step
	Pads or contacts: Check optical and mechanical condition particularly regarding to corrosion. Clean if necessary.
	Measure component for electrical functionality and change, if needed. (Level 2 only)
	Pads or contacts: Check optical and mechanical condition particularly regarding to corrosion. Clean with ESD brush only, if necessary.
	No more actions possible send product to the appropriate service partner with higher service level.

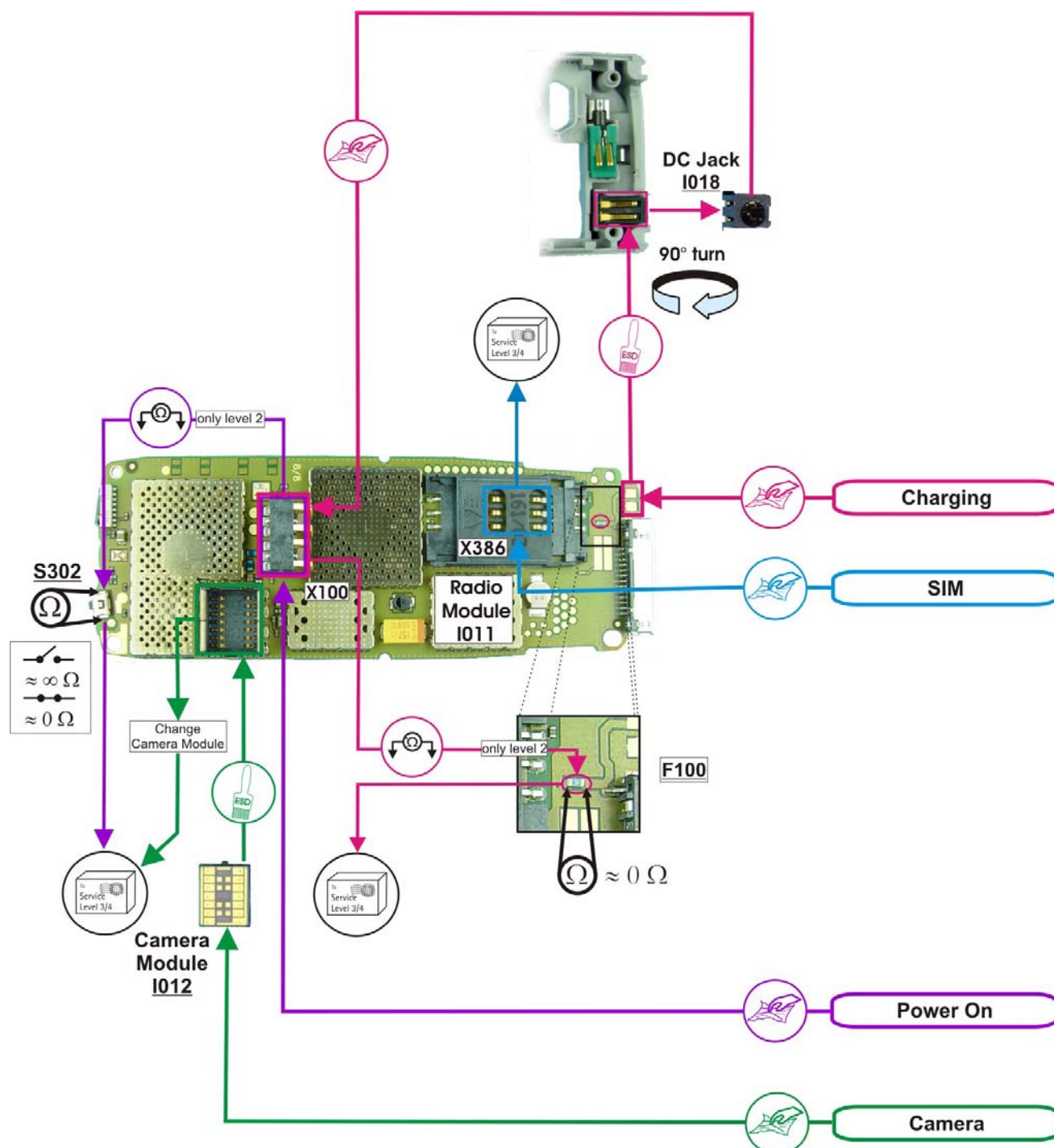
11. QUICK TROUBLE SHOOTER PART 1



12. QUICK TROUBLE SHOOTER PART 2







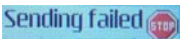

13. QUICK TROUBLE SHOOTER PART 3



14. INFRARED GONOGO TEST

You need another infrared device (e.g. 6310i) to do a GoNoGo test. The infrared windows of the devices must be directed to each other and should have a distance of approximate 15 cm. Make sure that infrared is activated in receiver device.

Warning: Do not point the IR (infrared) beam at anyone's eye or allow it to interfere with other IR devices. This device is a Class 1 Laser product.

	 infrared connection	
Test unit	Reference unit	
<p>Settings on the test unit:</p> <ul style="list-style-type: none">From Home Menu, select ▼ key. This displays Phonebook entries. If phone and SIM memory is empty, create one new entry.Choose one phonebook entry and select DetailsSelect OptionsSelect Send bus. cardSelect Via infraredSending in progress, please wait If sending of business card fails  , make sure again, that infrared windows are directed to each other and infrared is activated in reference device  . Then try again sending.Test was successful, if you get this message on receiver device Business card received . You will not get a confirmation on sender device.Press red receiver button for Home Menu		

15. CAMERA GONOGO TEST

Before starting the GoNoGo test, check that camera window is clean. If not, clean the window with cloth.

Check cleanness of camera lens and clean if necessary.

Exchange of Camera Module does not improve picture quality!

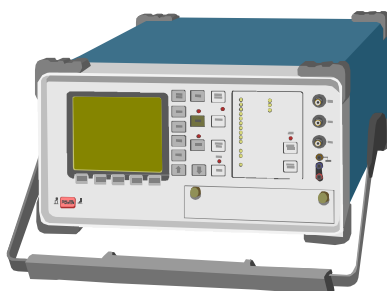


- From Home Menu, select **Media**
- Select **Camera**
- Select **Standard photo** by using the navy key.
- To take a picture select **Capture**.
- This Image will be saved to Gallery into the Photos folder automatically.
- Test was successful, if the Image appears on your Display. The camera is ok.
- Select **Options**
- Select **Delete**
- Select **OK**
- Press red receive button for Home Menu
- If the test is failed see Quick Trouble Shooter.

16. GONOGO TEST

After the optical check as GoNoGo test has to be carried out if the unit has been unscrewed to guarantee the functionality of the phone.

Please refer to the actual information on Partner Web Site and Nokia Care Point. When using automatic tester support, take care of the right setup according to the tester type and product type. Please refer to “Recommended Service Equipment” on Nokia Partner Web Site.



Mobile Phone Tester

17. BATTERY TEST

A battery tester lets you test the capacity of Nokia batteries.

Please refer to the actual information on Partner Web Site.



<http://www.astratec.co.uk/>



<http://www.cadex.com/>

18. SERVICE NOTES

We recommend using Service Notes when shipping phones to other Service Partners. It prevents the product from scratches, it is ESD-neutral and has the possibility to give valuable feedback of the fault symptom through a structured form. Please refer to the document [Service Notes for faulty NMP transceiver](#) on Partner Web Site to get further information.

Sender <u>Repair Center</u>		Our Ref. <u>4711</u>
Handled by _____		Product Code <u>050381</u>
Serial n.o.: <u>449333/20/975406/2</u>		Date <u>10.07.01</u>
Yes <input checked="" type="checkbox"/> Warranty Case <input type="checkbox"/> No		Inst <input type="checkbox"/> Instant Service <input type="checkbox"/> DOA
R <input checked="" type="checkbox"/> Repair		RR <input type="checkbox"/> Repair and Refurbishment
RO <input type="checkbox"/> Refurbishment only		SW <input type="checkbox"/> Software update
A <input type="checkbox"/> Analysis		C <input type="checkbox"/> Claim
24h <input type="checkbox"/> 24 h Service		SR <input checked="" type="checkbox"/> Special Request <u>Save User data</u>

A) EXISTENCE OF FAULT

1. <input checked="" type="checkbox"/> Continuous fault	2. <input type="checkbox"/> Intermittent fault	3. <input type="checkbox"/> Temperature
4. <input type="checkbox"/> By shock or vibration	5. <input type="checkbox"/> No clear fault	6. <input type="checkbox"/> Only as portable
7. <input type="checkbox"/> Only in a car	8. <input type="checkbox"/> Only in desktop	

B) SYMPTOM OF THE FAULT ON CMT-PART - Symptom Code _____


1. <input type="checkbox"/> Totally dead	2. <input type="checkbox"/> Selftest failure	3. <input type="checkbox"/> SIM Fail
4. <input checked="" type="checkbox"/> No service	5. <input type="checkbox"/> No calls in	6. <input type="checkbox"/> No calls out
7. <input type="checkbox"/> Keypad failure	8. <input type="checkbox"/> Display failure	9. <input type="checkbox"/> Audio failure
10. <input type="checkbox"/> Doesn't charge	11. <input type="checkbox"/> Overcharging	12. <input type="checkbox"/> Hand-free failure
13. <input type="checkbox"/> Burns fuses	14. <input type="checkbox"/> Accessory fail, which _____	
15. <input type="checkbox"/> Switches off	16. <input type="checkbox"/> Other _____	

C) OBSERVED OR MEASURED FAULT

1. <input checked="" type="checkbox"/> TX Power
2. <input type="checkbox"/> TX Phase error
3. <input type="checkbox"/> Bit Error Rate
4. <input type="checkbox"/> Burst Template
5. <input type="checkbox"/> Ramping spectra
6. <input type="checkbox"/> RX Quality
7. <input type="checkbox"/> RSSI
8. <input type="checkbox"/> Other _____

D) SYMPTOM OF THE FAULT ON PDA-PART - Symptom Code _____

1. <input type="checkbox"/> PDA doesn't start
2. <input type="checkbox"/> Internal error
3. <input type="checkbox"/> Keypad failure
4. <input type="checkbox"/> Display failure



19. FORWARDING OF REPAIRS TO SERVICE LEVEL 3 OR 4 SUPPLIERS

We recommend using the offered swap phone cartons as described in Spare Parts SB004.



Always Protect the window with a protection film.



Put the unit under the stretch film.



Add repair documentation e.g. filled-in service note into the swap carton.



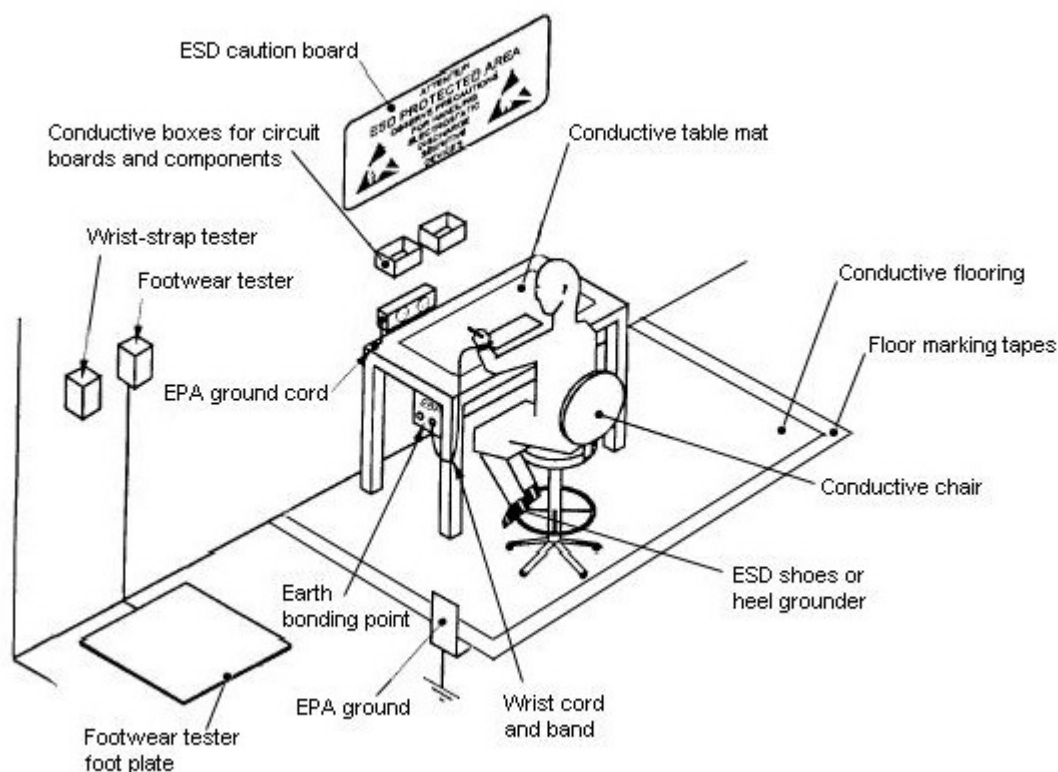
Fold the swap carton as shown in Spare Parts SB-004.



There two different sizes of swap cartons for common mobile phones.

20. ESD PROTECTION REQUIREMENTS

Please refer to the Partner Web Site document
General instructions [Service Partner Requirements](#).



USE Conductive bags and boxes
USE ESD compatible service tools
USE Conductive wastebaskets
USE ESD gloves when handling PWBs/PCBs
USE Cleaning material without changing el. Characteristics
USE Grounded service equipment, i.e. soldering station
USE ESD clothes such as coat or frock

NO Smoking
NO Drinking
NO Eating
NO Dust
NO Useless Items
NO Normal pressured air for cleaning modules/displays



The video covers general issues concerning Electro-Static Discharge (ESD)
source: Nokia Care Point